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YOUTH APPRENTICESHIP IN AMERICA TODAY

Connecting High School
Students to Apprenticeship

DECEMBER 2017

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Acknowledgments

We would like to thank the Siemens Foundation for its generous support of this work. The views expressed in this report are those of its author and do not necessarily represent the views of the Siemens Foundation, its officers, or employees. This research also benefited from the support and insight of many New America colleagues including Mary Alice McCarthy, Elena Silva, Abigail Swisher, and Mariam Abdelhamid.

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Our work is made possible through generous grants from the Alliance for Early Success; the Buffett Early Childhood Fund; the Annie E. Casey Foundation; the Foundation for Child Development; the Bill & Melinda Gates Foundation; the Heising-Simons Foundation; the William and Flora Hewlett Foundation; the Joyce Foundation; the George Kaiser Family Foundation; the JPMorgan Chase & Co.; the Kresge Foundation; Lumina Foundation; the McKnight Foundation; the Charles Stewart Mott Foundation; the David and Lucile Packard Foundation; the Siemens Foundation; the W. Clement and Jessie V. Stone Foundation; and the Walton Family Foundation. The views expressed in this report are those of its author and do not necessarily represent the views of foundations, their officers, or employees.

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INTRODUCTION

“So, what are you doing next year?” It is a common question American high school students face from teachers, neighbors, their friends, and parents. For students, it can inspire excitement about the next step after high school, as well as anxiety about figuring it out. The most common answer to that question today is college, with nearly 70 percent of today’s high school graduates enrolling in higher education after graduation.¹ That is no surprise in a labor market that overwhelmingly rewards college degrees over high school diplomas.²

But enrolling in college right after high school is a narrow path that is not working for enough young people. While high school graduation rates are at historic highs, still nearly a third of students do not enroll in postsecondary education after graduation.³ Of those that do, just over half will graduate with a bachelor’s degree in six years, and their prospects are worse if they start at a two-year college.⁴ Amongst the completers, there is no guarantee of a well-paying job to pay off the over \$30,000 debt today’s college graduates accumulate on average.⁵

These developments are troubling at a time when postsecondary education is the new minimum for accessing family-sustaining jobs in fast-growing industry sectors like information technology, business, healthcare, and advanced manufacturing. Today’s high school students would benefit from more options to get

through postsecondary education and into the workforce. But those new options need to be well connected to good jobs and further educational opportunities, which means they need to be embraced by employers as well as educators.

An Underutilized Option

As policymakers contemplate new ways to connect education and workforce training, apprenticeship stands out as a compelling, but underutilized option. Apprenticeship is a proven educational model that integrates on-the-job and classroom learning. It is highly effective for helping learners connect theory and practice and works particularly well for people who learn best by doing. Apprentices gain valuable work experience and access to professional mentors and networks. From day one of the program, the apprentice is a paid employee, developing valuable skills while adding productive value on the job.

Despite the bipartisan enthusiasm for expanding apprenticeship, there are still just only a half million apprentices in the U.S. today.⁶ Apprenticeship opportunities are heavily concentrated in occupations within construction and the skilled trades, despite promising efforts underway to bring it to white-collar fields such as financial services and information technology.⁷ It also remains a workforce strategy largely for adults. The average

What is an apprenticeship?

Apprenticeship is paid, structured, on-the-job learning with related classroom-based instruction. There is only one existing legal definition for apprenticeship through the Registered Apprenticeship system administered by the U.S. Department of Labor.⁸ Stripped down, Registered apprenticeship includes four essential criteria:

1. Paid, on-the-job learning under the supervision of skilled employees
2. Related classroom-based instruction
3. Ongoing assessment against skills standards
4. Culmination in a portable, industry-recognized credential

The Registered Apprenticeship system establishes additional baseline standards for each of the “four corners,” including program duration, increases in wages as apprentices earn new skills, and assurances that all apprentices receive, upon completion, a nationally-recognized “journeyworker” credential backed by the U.S. Department of Labor. Apprenticeship is set apart from other forms of work-based learning by the role of employers. In apprenticeship, the employer is directly responsible for helping to define, deliver, and document learning both on the job and in the classroom. This means the employer has considerable say in what is taught during related instruction, but also where that instruction happens. At the same time, the Registered Apprenticeship system is designed to ensure that the apprentice learns skills that are applicable to and transferable within the labor market, and not tied to the needs of a single employer.

What is a youth apprenticeship?

Youth Apprenticeship is an evolving concept in the U.S. with no single, legal definition. Generally, a youth apprenticeship program meets the same four criteria of a Registered apprenticeship program, but is designed specifically for apprentices that at the start of the program are enrolled as high school students.⁹ Because these programs involve high school students, youth apprenticeship programs typically function as a partnership across employers, high schools, and postsecondary institutions.

age of an apprentice is closer to 30 than 18, in large part because apprenticeship functions apart from mainstream education systems.

The separation between apprenticeship and formal education systems stands in sharp contrast to countries like Germany and Switzerland that deploy apprenticeship to transition over half of their high school students to postsecondary education and into the workforce. Apprenticeship is deeply integrated within formal education systems and not treated as a collection of stand-alone training programs to fill specific jobs for individual employers. In these countries, apprenticeship functions as a dual system of education that blends learning in the classroom with applied learning in the workplace. The foundation of these dual systems is broad industry participation and investment across sectors to provide employers a cost-effective and sustainable talent pipeline.

American Youth Apprenticeship

U.S. policymakers have been fascinated by European youth apprenticeship systems for decades. They are widely credited for the enviably low youth unemployment rates and globally competitive firms in countries like Germany and Switzerland. But what exactly does youth apprenticeship look like in an American context? And what would it take to build an American youth apprenticeship system?

Youth apprenticeship programs ideally work like this: an employer hires an apprentice while he or she is still in their junior or senior year of high school. During the program the apprentice spends a few days a week working under the supervision of skilled mentors. When he or she is not working, the apprentice attends classes, sometimes in high school, sometimes in community college. The courses are related to what the apprentice is learning on the job, but also build the apprentice's general knowledge. Youth apprentices graduate high school on time, but continue with the apprenticeship for an additional one to three years

after graduation. By the end, youth apprentices accumulate years of work experience, free college credit (in some cases an associate's degree), and a portable industry credential. After the program, they have options. With networks, marketable skills, and work experience they can opt to take a full-time job. They can also choose to continue their postsecondary education, often applying the college credits they earned in their apprenticeship program toward a degree. Or they can pursue some combination of the two.

High-quality youth apprenticeship programs like this exist in the U.S., but there are few of them. Programs also tend to vary in terms of what they ultimately offer students from program to program. The scarcity and diversity of American youth apprenticeships reflect the piecemeal way programs are typically built, from school to school, employer to employer.

Growing youth apprenticeship in the U.S. presents some dilemmas. To date, American employers have yet to demonstrate broad-based willingness to employ youth without work experience or a credential, much less invest in developing their skills. Youth apprenticeship also confronts long-held ideas and legacies about the relationship between learning and work in the American high school, including if and how opportunity is distributed between—or concentrated across—racial and socio-economic lines.

Despite these challenges, apprenticeship aligns with today's mainstream discussions about how to improve education and employment outcomes for America's youth. High school leaders face increasing demands to prepare students for both college and career. Higher education faces pressures to address concerns over college affordability, completion, and meeting diverse student needs. Well-designed apprenticeship programs can smooth transitions between high school and postsecondary education by helping students acquire skills, experience, and credentials with value in the labor market.

Youth apprenticeship also aligns with new ways employers are thinking about their workforce pain points. For employers citing “soft skill” deficits, out-of-date education programs, or the need to tap into a younger, more diverse workforce, youth apprenticeship offers another way forward. Is American youth apprenticeship an idea that has finally met its time?

Our Research: Five Key Findings

This report explores opportunities and challenges for growing high-quality youth apprenticeship in the U.S. For the past year, New America’s Center on Education & Skills has been exploring key questions about youth apprenticeship:

- What makes youth apprenticeship an attractive option for improving outcomes for students?
- Are Americans open to connecting more high school students to apprenticeship?
- What do we know about the current landscape of youth apprenticeship programs?
- What can we learn from past efforts to expand youth apprenticeship?
- What efforts are underway today to expand youth apprenticeship?

To answer these questions, we led a multi-pronged research effort that included a review of domestic and international research on youth apprenticeship; focus groups with high school parents, students, and recent graduates; a national landscape scan of current youth apprenticeship activity; and interviews with practitioners and national subject-matter experts. That effort produced the following key findings:

1. Youth apprenticeship is aligned with mainstream thinking about key problems facing American education and industry, including how to smooth transitions between education and the workforce.
2. Americans are open to youth apprenticeship for high school students, but awareness is low and caveats remain related to program quality.
3. Without a single definition for youth apprenticeship, the current national landscape shows a diverse collection of programs nowhere near a coherent system.
4. There are historical reasons for today’s fragmented and limited landscape. Past efforts to expand youth apprenticeship offer important lessons for future ones.
5. States are leading a new wave of efforts to expand youth apprenticeship.

FINDING ONE: ALIGNMENT WITH EDUCATION AND WORKFORCE TRENDS

Today, youth apprenticeship is an important opportunity space for those working to smooth transitions between education and the workforce. It is aligned with mainstream thinking about key problems facing American education and industry.

Youth apprenticeship demands partnership across high schools, postsecondary institutions, and employers. All three groups have incentives to collaborate. But it may be higher education's completion and affordability crisis that is generating the most persuasive arguments for expanding youth apprenticeship opportunities. If those concerns can be matched with industry's urgency to act on skills challenges, youth apprenticeship emerges as a timely and promising solution.

College Completion and Costs

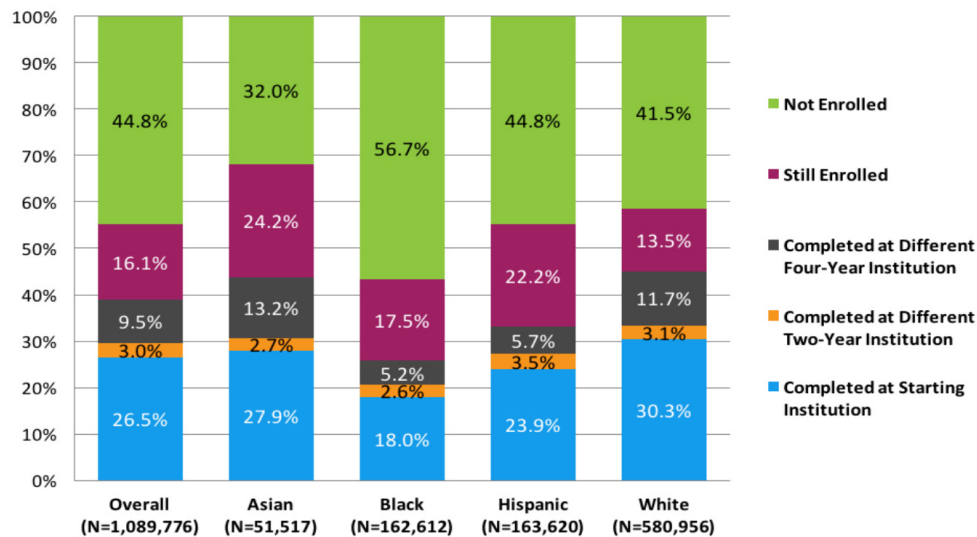
American postsecondary education faces urgency to respond to a decades-long shift in the labor market: a declining share of good jobs today are available to those with a high school diploma or less.¹⁰ But too few American students are completing postsecondary education. Just over half of college enrollees will graduate within six years and the

odds are worse if they start in a two-year college and if they are black or Hispanic (see **Figure 1**).

The roots of the completion challenge are multifaceted. While students see college as the next step to the future or a career, once enrolled, many find themselves in classes that look a lot like high school. Participation in remedial coursework is high across the board, but particularly at community colleges and for students of color.¹¹ Many college students today also balance responsibilities, with nearly 40 percent of today's college students working while in school.¹²

The rising cost of higher education today compounds the effect of these trends on college completion. Students may grow frustrated spending time and money on remediation. The cost of higher education also puts pressure on students to work while going to school. This can contribute to hard decisions about taking time off from school altogether to work. All of these challenges underline the urgent need for more affordable and flexible postsecondary options.

Figure 1 | College Completion: Six-Year Outcomes for Students Starting at Two-Year Institutions (2010 Cohort)



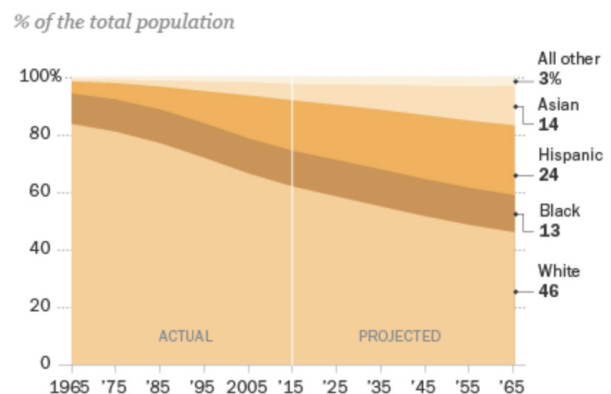
Source: Doug Shapiro, Afet Dunder, Phoebe Khasiala Wakhungu, Xin Yuan, Angel Nathan, and Youngsik Hwang, *Completing College: A National View of Student Attainment Rates—Fall 2010 Cohort* (Herndon, VA: National Student Clearinghouse Research Center, November 2016), <https://nscresearchcenter.org/wp-content/uploads/SignatureReport12.pdf>.

Industry's Skills Challenges

Businesses have long complained of “skills gaps,” mismatches between the skills employers want and what skills the labor market offers.¹³ But many employers are facing a set of longer term, structural skills challenges that go beyond finding skilled workers to fill today’s job openings. Demographic change is at the forefront of such concerns. For example, manufacturers raise the alarm over an aging baby-boom workforce.¹⁴ Employers from information technology and financial services demonstrate concern about their workforce not resembling the changing face of the country as a whole (see **Figure 2**).

New research also suggests compelling reasons for employers to rethink their talent practices wholesale. *Dismissed by Degrees: How Degree Inflation is Undermining U.S. Competitiveness and Hurting America’s Middle Class*, outlines the costs to business of “degree inflation,” the upping of

Figure 2 | The Changing Face of America (1965–2065)



Note: Whites, blacks and Asians include only single-race non-Hispanics; Asians include Pacific Islanders. Hispanics can be of any race.
Source: Pew Research Center 2015 report, “Modern Immigration Wave Brings 59 Million to US, Driving Population Growth and Change Through 2065”

Source: D’vera Cohn and Andrea Caumont, “10 Demographic Trends that are Shaping the U.S. and the World,” *Fact Tank*, Pew Research Center, March 31, 2016, <http://www.pewresearch.org/fact-tank/2016/03/31/10-demographic-trends-that-are-shaping-the-u-s-and-the-world/>.

minimum education requirements for a growing swath of jobs.¹⁵ The authors argue degree inflation, specifically relying on bachelor's degrees as blunt instruments for assessing candidates' skills, results in bottom-line consequences such as longer times to hire and employee retention issues.

The Case for Youth Apprenticeship

The challenges facing American postsecondary education and industry today are well documented. But why is youth apprenticeship a promising way forward to help address them? The research case for apprenticeship as a cost-effective way to improve employment and wage outcomes is strong.¹⁶ Surveys of employers sponsoring apprenticeship programs cite retention benefits, reduced hiring costs, and improved workforce morale among the chief benefits.¹⁷ But this existing evidence base mostly pertains to adults and exclusively to Registered apprenticeship programs.

What we know specifically about youth apprenticeship largely comes from Europe, where systems are large enough—and consistent enough from program to program—to evaluate. The results are promising, with programs producing strong employment and earnings outcomes for participants and easing the school-to-work transition,¹⁸ though some analyses suggest these more immediate labor market advantages of youth apprenticeship over more traditional postsecondary education paths may diminish over time.¹⁹ International research also outlines benefits of youth apprenticeship schemes to employers. For example, analysis from Switzerland shows employers fully recoup their investment in apprentices through productivity gains by the third year of the program.²⁰

Back in the U.S., American researchers interested in youth apprenticeship can look at programs serving high school students that share the components of apprenticeship for insights.²¹ The strongest case for youth apprenticeship may be that it brings together several research-grounded innovations such as industry-valued credentials, contextualized coursework, and high-quality work-based learning. Attaining industry-recognized credentials while still in high school has been shown to improve wages for graduates as well as working-learners should they enter college.²² Promising results for career academies, structured programs that combine contextualized, career-focused coursework with core academic classes, demonstrate the possibility for students to enhance longer-run earnings potential without compromising academic achievement.²³ Finally, quality work-based learning opportunities have been shown to help students build critical workplace and soft skills, along with increasing GPA and school attendance.²⁴

Despite these broader trends, a key barrier to expanding youth apprenticeship will be the narrow scope of American apprenticeship writ large. In order to serve large cohorts of high school students, more employers across industries will need to embrace apprenticeship. To work for students in today's economy, apprenticeship programs will also need deeper relationships with traditional higher education institutions to ensure programs broaden future opportunities, not narrow them. The good news is that current efforts to expand apprenticeship are pushing these frontiers. The better news may be that connecting apprenticeship to high school students may be the key to accelerating those very developments within apprenticeship more broadly.

FINDING TWO: PUBLIC OPENNESS TO YOUTH APPRENTICESHIP

Americans are open to youth apprenticeship targeting high school students, but awareness is low and caveats exist.

Broader trends support youth apprenticeship as a possible solution to key education and workforce challenges, but none of that matters if high school students and their parents do not want it. The lack of apprenticeship in the U.S. is popularly attributed to a “college-for-all” culture, coupled with long-held stereotypes about apprenticeship being for only blue-collar trades, or as a life preserver for those that cannot make the higher education cut. A recent national survey, however, suggests Americans view apprenticeship as favorably as a four-year public university education, and considered it as effective at preparing individuals for a career.²⁵ A large majority of respondents in that survey, both Democrats and Republicans, even “strongly favored” more government spending to support the expansion of apprenticeship.

To find out what high school students, parents of high school students, and young adults actually think about apprenticeship, New America commissioned focus groups in spring 2017.²⁶ The Farkas Duffett Research Group held groups

in Charlotte and Denver to discuss participants’ views on apprenticeship as well as their overall experiences, attitudes, and values concerning school, work, and career choices.

College as the Status Quo

The focus groups illuminated the centrality of college as the logical next step after high school. Decisions about next steps after high school seem to be made in a values context that prizes “going to college” over any other potential option. Participants cited external pressures reinforcing that bias—from parents, to neighbors, to high schools themselves.

“Since I became a senior everyone is like, ‘Where are you going to college?’ It’s the first question they ask, automatically. And if my answer, or anyone’s answer for that matter, doesn’t match the preconceived vision of what they think our futures should look like, they are taken aback—like that is the only way to continue.”

—Allison, Denver high school student

That did not mean that participants were pleased with the status quo. The groups indicated that there is some frustration with the one-size-fits-all approach high schools promote by prioritizing getting students to college after graduation. Others wanted high school to be a place to develop more real-world skills. Additional frustrations were centered on higher education, which many participants saw as an expensive way for students to have to go and “figure it all out.”

“Like going to college and testing the waters and taking all of these different things...to see what you like, you’re wasting money. Do that in high school. Try to take different courses....Start early trying to find what you like. Don’t go to college and then try to figure out what you like because you’re spending money.”

–Tammy, Charlotte parent

Apprenticeship as a Word and Concept

Once the word *apprenticeship* was introduced, some parents did equate the concept with “blue collar work” or a “trade.” But a similar bias did not play out for younger parents and students. These groups tended to see apprenticeship as more of a process or way to learn than associated with any kind of job or person. When specific people were mentioned, it was common to hear participants associate apprenticeship with someone in a “business suit,” or a certain former reality television celebrity famous for wearing one.

“It’s a one-on-one thing where somebody is going to take you under their wing, and they should be the best of the best in whatever they do. And they should try to teach you to be the best of the best so that one day maybe you have the chance to be that person that gives that skill set to the next person.”

–Carissa, Denver young adult

Once participants were shown a generic description of a youth apprenticeship program, reactions suggested that they were open to the idea. They were eager to learn more about career trajectories other than the conventional “graduate from high school, go to college.”

“Nowadays they just kind of push us through high school and they are, ‘All right, when you get to college you will learn this.’ But half the people drop out of college and they don’t have the skills. So if we could go into the world with real skills, we could make money. And then it is debt-free....Everyone is worried about paying for college. My mom is always like, ‘oh yeah, I have been out of college for 20 years and I am still paying debts.’”

–Joshua, Charlotte student

Across focus groups, participants were far more likely to find the specific components of an example youth apprenticeship program more appealing than not. Comments such as, “*There’s nothing I don’t like*” were common. Most popular elements were “*free two-year college*,” “*no debt*,” and “*boosting lifetime earnings*.” While few components of the youth apprenticeship program description caused concern or pushback, some that did raise a reaction include, “*Credits may not transfer to another school*,” or “*the number and type of fields were too narrow*.” There was also uneasiness about students making a big commitment at such a young age and missing out on the high school or college “*experience*.”

“They have all the rest of their lives to be stuck in an office somewhere. So I am okay with them taking four years and being teen-agers.”

–Matt, Denver parent

Apprenticeship as a Postsecondary Option

The focus groups underscored the important connection between youth apprenticeship and postsecondary education. Some saw youth apprenticeship as an attractive stop along the

way to further education, which may explain why participants were anxious about whether other colleges would accept credit earned. At the same time, anxieties about the cost of college, and more importantly, what students get for those costs (i.e., “back-to-the-basement” concerns) drove interest in apprenticeship as a productive way to help students figure out their next step. Apprenticeship was also seen as a way to complement their education experience. The “recent graduate” groups consistently drove home a hard truth: the labor market is hard on people even looking for an entry-level job without some type of work experience

While participants view apprenticeship as a compelling postsecondary option for parents and students, who did they see it as an option for? Some parents said apprenticeship would be a great option—but, maybe just for one of their kids. The focus groups also revealed complicated equity issues. Looking at generic programs, some showed concern about what types of kids would likely access these programs. Some believed that

apprenticeship would be more appealing to families with fewer resources.

“I am in South Charlotte, and that’s where a lot of business people work. These students, their parents are executives; they make a lot of money. They don’t need [apprenticeship]. They feel they are set with what they have.”

—Rebecca, Charlotte student

Overall the focus groups suggest openness to the idea of youth apprenticeship, but specifics mattered. What does the apprentice get? Who is the employer? What are my opportunities afterward? What are my other options? This suggests how programs are structured, who runs them, and the experience they offer will ultimately dictate whether or not students and parents embrace youth apprenticeship. The existing landscape of programs provides a view of what programs actually exist and are available to students today.

FINDING THREE: A DIVERSE NATIONAL LANDSCAPE

Without a single definition for youth apprenticeship, the current national landscape is a diverse collection of programs versus anything near a coherent system.

The focus group findings suggest public openness to the idea of youth apprenticeship. But what programs actually exist for high school students today? By all accounts, there are few. The first problem in arriving at any specific estimate is that there is no clear idea of what counts as a youth apprenticeship. As a result, the current landscape is not only small; it is a diverse collection of programs, far from a coherent system.

How Do Programs Function?

Existing programs vary along key lines including program length, partners involved and the approach to quality assurance (see **Appendix A**). But it is possible to identify a youth apprenticeship program if generally there are four things happening as part of a structured partnership:

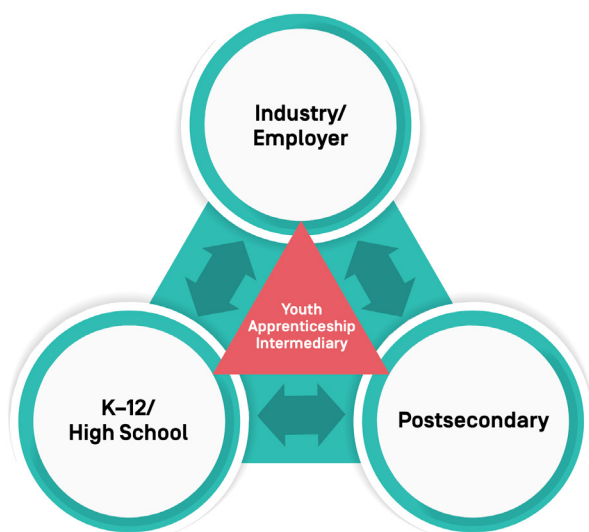
- **Employers working with education partners to identify skills requirements, build training plans, and deliver paid on-the-job training.** What differentiates youth apprenticeship from similar work-based learning experiences or

career and technical education programs is the employer's role, which goes beyond offering paid work experience. Employers are directly responsible for helping define, deliver, and document learning.

- **High schools enabling student participation, on-the-job learning, and postsecondary related instruction, while helping students meet graduation requirements.** High schools, *in loco parentis*, have to give formal permission for students to participate in any postsecondary instruction or on-the-job learning during normal school hours. They also play a key role in recruiting and helping prepare students for the apprenticeship program.
- **Postsecondary institutions delivering related instruction and assessing learning that leads to postsecondary credit and credential attainment.** Related instruction complements what apprentices learn on the job, while ensuring their training is not too narrow for a single employer. That balancing act requires a credible postsecondary partner that can customize learning enough to meet the needs of industry, while ensuring learning is portable in the broader labor market and can be built on over time.

- **An intermediary coordinates the activity of key partners to support employers and the success of apprentices.** There are many names for them: the champion, the workhorse, the backbone, or just someone who makes working with partners a part of their day job. Whatever they are called, their work is indispensable for helping set up and run programs. Diverse organizations and people fill this intermediary role: district work-based learning coordinators, community colleges, chambers of commerce. Rarely is this a dedicated, resourced, full-time job.

Figure 3 | The Youth Apprenticeship Partnership

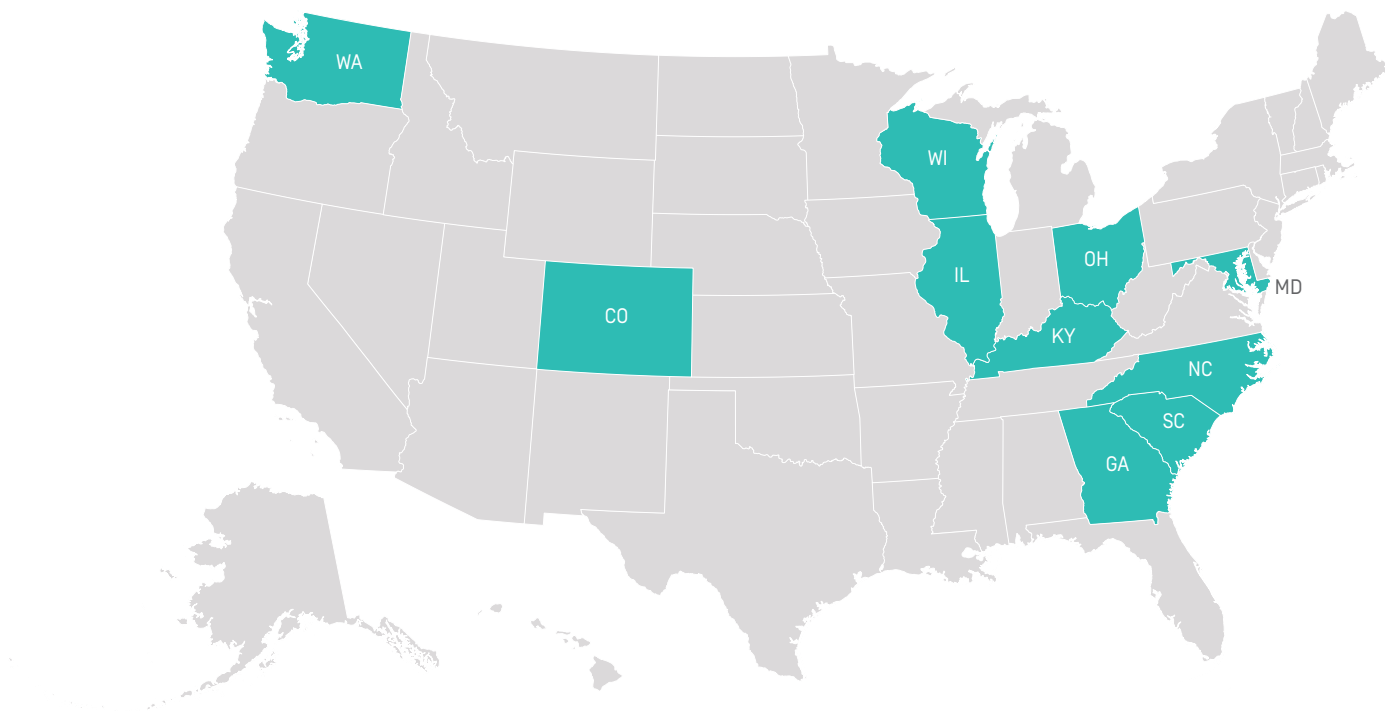


How States Support Youth Apprenticeship

How these partnerships come together varies based on local implementation. In several states, however, youth apprenticeship is happening at some scale. Today there are five types of youth apprenticeship activity happening in the U.S. at the state level beyond the scope of a single employer or community. Those include:

- **State-governed youth apprenticeship programs.** Some states fund and administer codified youth apprenticeship programs. Since the 1990s, **Wisconsin** and **Georgia** have run youth apprenticeship programs. These programs are embedded within state law, benefit from state funding, and, while implementation is local, operate with common baseline requirements.
- **Registered youth apprenticeship programs.** Two examples of states that lead targeted efforts to expand youth apprenticeship through the Registered Apprenticeship system: **North** and **South Carolina**. The programs themselves are not part of a statewide program. They are developed locally to meet the needs of local employers. But as Registered programs, all adhere to a baseline quality framework.
- **Statewide public-private youth apprenticeship partnerships.** Currently pioneering a new approach to expanding youth apprenticeship, **Colorado** is supporting a public-private partnership dedicated to building programs. CareerWise Colorado, founded in 2016, is a non-profit designed to broker partnerships between local employers and schools to launch and run youth apprenticeship programs.
- **CTE pre-apprenticeship pathways.** Among the most widespread forms of youth apprenticeship activities are programs that help high school students start apprenticeship prior to graduation. Notable examples include the **Kentucky** TRACK program, the **Washington** Running Start Program, and the **Ohio** Pre-Apprenticeship Program. These programs often share deep ties to career and technical education (CTE) coursework in high schools, and a connection to existing Registered apprenticeship programs.
- **State youth apprenticeship pilots.** Several states are experimenting with youth apprenticeship. In 2015, Apprenticeship

Figure 4 | Examples of State Youth Apprenticeship Activity



Maryland launched a pilot in two school districts working with employers in multiple industries such as healthcare and advanced manufacturing. In summer 2017, **Illinois** launched the Apprenticeship PLUS youth pilots across the state also in a range of industries.

Insights from Today's Landscape

Looking across the different ways states support youth apprenticeship, some notable themes emerge:

- **Broad industry participation:** Compared to apprenticeship in the U.S. more broadly, youth programs involve employers across a wider range of industries that include not just the trades and manufacturing, but also broad participation by industries like healthcare, information technology, and hospitality.
- **Function as dual enrollment programs:** While youth apprenticeship programs serve high school students, they are implemented as postsecondary programs. Youth apprenticeships largely function through the framework of dual enrollment, which enables school districts to offer students postsecondary learning opportunities.
- **Connection to Career and Technical Education:** Youth apprenticeship programs often function with some connection to Career and Technical Education (CTE) systems. Programs may be aligned with established state CTE career pathways or benefit from support from CTE funded work-based learning coordinators at the district level.
- **Selectivity of programs:** Regardless of type, youth apprenticeship programs are selective. Many have multi-layered processes, including

interviews, and sometimes require pre-apprenticeship or internship experiences with prospective employers. They also tend to have pre-requisites for students that include minimums for GPA and attendance, and in some cases satisfactory completion of certain high school coursework and drug tests.

- **Ad-hoc approaches to financing:** Public resources to support youth apprenticeship are often pulled together in an ad-hoc way. Partners must develop local strategies and creative solutions to pay for key program components, including the related postsecondary instruction for apprentices, equipment, and the capacity of the supporting intermediary.

- **Lack of Data:** There are not a lot of data about youth apprentices and their outcomes. Where data exist, programs know most about program completion and least about the contributions of youth apprenticeship to student achievement, future employment or postsecondary attainment.

In part because of the tenuous connections to well-established systems (such as CTE, Registered Apprenticeship, and higher education) today's landscape of youth apprenticeship is diverse. This dilemma reflects the piecemeal and fragmented way that youth apprenticeship historically developed in the U.S., the result of successive waves of interest and experimentation with youth apprenticeship over the past several decades.

FINDING FOUR: A HISTORY WITH LESSONS TO OFFER

There are historical reasons for today's fragmented and limited landscape. Past efforts to expand youth apprenticeship offer important lessons for future ones.

For decades numerous U.S. policymakers and education leaders have traveled abroad to countries such as Germany and Switzerland to observe a “dual system” of education in action. For those policymakers used to American apprenticeship that largely serve adults preparing for careers in

the building and construction trades, these systems come as a shock. European students have hundreds of occupations across industry sectors to choose from. Then there is the youth factor. Whether it is a bank or plant, visiting Americans see cohorts of 16- or 17-year-olds doing meaningful work and acting like adults. Over the years these visits inspired successive waves of experimentation, despite the lack of a clear policy framework to support American youth apprenticeship.

Why is there no dual education system in the U.S?

In the U.S., apprenticeship and vocational education for high school students developed on parallel tracks. The passage of the Smith-Hughes Act in 1917 put the responsibility for vocational education largely in the hands of educators in public high schools. This was the result of a compromise across a coalition of industry, education, and labor with diverse concerns: the need for skilled labor, more education funding, and concerns about access to cheap labor.²⁷ It was decided that the “comprehensive high school”—the model that continues today—could provide both academic and vocational training in one big place.

The passage of the Fitzgerald Act 20 years later established the national Registered Apprenticeship system. The act further reinforced the distance between apprenticeship and vocational education not so much by what it did, but by what it did not do. The New Deal-era act focused on labor standards to protect and prevent the exploitation of apprentices as cheap labor. Unlike in Europe, the Fitzgerald Act did not establish a policy infrastructure for organizing and financing apprenticeship. Labor unions and private employers themselves were largely expected to play these roles. This cemented a fragmented policy framework for American vocational education and apprenticeship that persists today.

The School-to-Work Experience

But even without this historical foundation for youth apprenticeship, there have been attempts to make it work here. Starting in the 1970s, fueled by growing concerns over growing inequality and the economic threat posed by Japanese and German exporters, U.S. leaders began to take an interest in the European dual systems. Interest in a major effort to expand youth apprenticeship gained momentum in the early years of the George H.W. Bush administration, building off the experience of periodic U.S. Department of Labor demonstration grants going back to the late 1970s.

While a “School-to-Work” movement had already been afoot for years, in 1994 it reached new heights when President Clinton signed the School-to-Work Opportunities Act, which would guide a nearly \$2 billion federal investment. But by the time the law passed, School-to-Work was no longer about expanding youth apprenticeship. While both President Clinton and then Secretary of Labor Robert Reich were inspired by the German model of youth apprenticeship, after rounds of political negotiation, School-to-Work ultimately opted to give states the flexibility to support broader activities such as career awareness, counseling, job shadowing, and work-based learning.²⁸ Only a handful of the states that received grants through School-to-Work focused on a youth apprenticeship model.

Why did School-to-Work largely abandon the model that many of its early champions sought to emulate? One answer is scale. First, as a federal initiative there was an inherent political imperative to reach as many states and communities as possible. That meant maximizing flexibility in how funds could be used. However, the sheer diversity of activity School-to-Work supported proved hard to track and evaluate. While the law sunset by design in 2001, the heterogeneity of the activity it supported complicated the political case at the federal, state, and local level to sustain the work.

Second, in part as an effort to distance School-to-Work from the legacy of tracking in vocational education, activities were broadened to reach a wide cross-section of students.²⁹ But this “all for all” tack was not without its own peril. School-to-Work eventually drew the ire of high-profile conservative activists who saw federal overreach into high school students’ education. In 1998, Lynne Cheney published an op-ed in the *New York Times* accusing School-to-Work of limiting students’ horizons and undermining parents’ autonomy by “assum[ing] unwarranted authority over their children’s lives.”³⁰

The Euro-Invasion

If School-to-Work was a high profile, government-led experiment, the next phase of youth apprenticeship experimentation was the antithesis. Far from government-led, in the late 1990s youth apprenticeship innovations emerged after an influx of foreign direct investment in the U.S. by European manufacturing firms. These efforts grew out of German, Austrian, and Swiss firms' desire to meet their workforce needs. Rather than support broad career preparedness activity, firms developed rigorous, three- to four-year long apprenticeship programs heavily influenced by the dual systems back home.

In these models, multiple employers in a single region came together to design and implement youth apprenticeship programs. Participating employers invested tens of thousands of dollars to support apprentice training. To most Americans, these programs offered things that seemed too good to be true, which meant they gained national attention. Programs recruited students right out of high school. Apprentices earned a wage, a free associate's degree, and had a job on the other side. Early success with high-profile examples like

Apprenticeship 2000 and Apprenticeship Charlotte made North Carolina in particular the focal point of youth apprenticeship innovation. Despite the attention, the depth of industry leadership and investment that made these models work proved hard to scale.

These two eras of high-profile experiments with youth apprenticeship offer important lessons for those interested in growing youth apprenticeship today. This includes the challenges of a major, government-led initiative as well as the limits to scale when industry is expected to lead on its own.

Today, a handful of states like Colorado are leading a new "third" wave of experimentation with youth apprenticeship. The European systems are again a source of inspiration with particular interest today amongst policymakers in the Swiss model of youth apprenticeship. At the same time, there are states looking to build upon infrastructure that dates back to the School-to-Work era. Other states see possibilities by actively supporting the replication of regional industry-led partnerships focused on youth apprenticeship. Together these examples present diverse strategies for state leadership to expand youth apprenticeship.

FINDING FIVE: STATE STRATEGIES TO EXPAND YOUTH APPRENTICESHIP

States are leading a new wave of efforts to expand youth apprenticeship through focused strategies to scale critical intermediary capacity.

State leadership on apprenticeship makes sense. Governors have their hands on education, workforce, and economic development policy levers, and apprenticeship addresses some key needs in all three areas. Governors can show they are taking steps to equip the workforce with in-demand skills as an economic development priority. But only more recently have states signaled an interest in connecting high school students to youth apprenticeship. New attention to “career readiness” in the K–12 years and deepening concerns over college affordability add to that interest.

A key way states are leading is through strategies to scale the critical intermediary capacity necessary to start programs and coordinate partnerships between employers and schools. States can fund those intermediaries directly, provide support and technical assistance to start them, or help build one to function statewide. The programs these strategies support are diverse (see **Appendix B**) and state experience with each provides important insight for future efforts to grow youth apprenticeship.



Wisconsin: Investing in Statewide Infrastructure

Wisconsin is home to the nation’s oldest system of Registered Apprenticeship. It is also home to one of the oldest youth apprenticeship programs, the Wisconsin Youth Apprenticeship Program. The infrastructure in place today dates back to 1991 and the School-to-Work movement. Each year Wisconsin’s legislature appropriates funding for the codified program. The state’s Department of Workforce Development then grants those funds to regional consortia—33 in total—that work with employers and school districts to develop and manage youth apprenticeship programs.

Grant funds are primarily used to support youth apprenticeship coordinators who serve as the backbone of regional consortia. Who leads those consortia varies and can include, for example, people from regional chambers of commerce, technical colleges, and school districts. To receive a youth apprenticeship grant, leaders must work with local employers and school districts, commit to 50 percent matching funds and agree to report to the state on basic apprentice outcomes including participation and completion.

Over the last two years, the state nearly doubled support for the Youth Apprenticeship Program. In fiscal year 2018 almost \$4 million was committed to expand above the previous level of 3,500 apprentices statewide. Despite variation in state funding levels for the program over the years, local support and buy-in by local employers and education leaders have helped Wisconsin's Youth Apprenticeship Program endure.

Today, along with increased investment, there is new energy to strengthen systemic connections to the state's technical college system, update career pathways in partnership with state industry associations, and forge tighter connections to Wisconsin's longstanding Registered Apprenticeship system. The latter includes the expanding "YA to RA" bridge programs to offer youth apprentices a more seamless transition and articulation into aligned Registered apprenticeship programs.



North Carolina: Franchising Regional Consortia

European-style youth apprenticeship pioneers Apprenticeship 2000 and Apprenticeship Charlotte set the tone on how to expand Registered youth apprenticeship in North Carolina. Employer representatives running these programs traveled across the state, working with employers and schools to help start new regional consortia. Consortia form based on the initiative of local employers, but often benefit from start-up support and technical assistance from more mature consortia.

The state is now playing a more active role in helping regions start consortia. Over the last three years, North Carolina tripled the number of high-school youth participating in Registered apprenticeship programs to just shy of 1,000. There are now 12 regional consortia, almost exclusively existing to help youth connect with careers in advanced manufacturing (see **Regional Youth Apprenticeship Consortia in North Carolina**).

Regional Youth Apprenticeship Consortia in North Carolina

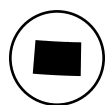
- Apprenticeship 2000
- Apprenticeship 321
- Apprenticeship Charlotte
- Apprenticeship Durham
- Apprenticeship Montgomery
- Apprenticeship Randolph
- Career Accelerator Program
- Catawba Apprenticeship Program
- Guilford Apprenticeship Partners
- Rockingham Apprenticeship and Technical Opportunities Program
- Rutherford Apprenticeship Program
- Triangle Apprenticeship Program

North Carolina demonstrates how youth apprenticeship intermediaries can be expanded through a franchise model—independently operated and financed, but governed for quality under the state's Registered Apprenticeship system. Industry bears the bulk of the cost for starting and running these youth apprenticeship consortia. In some regions local philanthropy, community colleges, career and technical education leaders, and, more recently, local chambers of commerce are playing critical roles in startup and program management.

In coming years, new and existing regional consortia may benefit from more systemic engagement of the state's community college system. In 2016, state legislation passed to offset some of the education

costs for Registered youth apprentices at public community colleges though a tuition waiver program. The move of the state's Registered Apprenticeship system to the state community college system is another recent development.

Under the franchise model, future growth ultimately lies with industry motivation. Industry's deep investment and leadership in the expansion of youth apprenticeship in North Carolina yields rigorous, Registered programs designed to fill employers' critical skills needs. But further growth in North Carolina rests with whether or not employers beyond the manufacturing sector are ready to embrace and invest in the youth apprenticeship model.



Colorado: Building a Statewide Public-Private Partnership

CareerWise Colorado launched in 2016 as a non-profit to serve as a statewide intermediary and the backbone of the state of Colorado's effort to build a modern youth apprenticeship system. CareerWise as an organization was designed to broker partnerships between local school districts and employers across the state and aims to build a system that supports 20,000 youth apprentices annually within 10 years. Its genesis traces back to successive trips to Switzerland led by businessman and CareerWise CEO Noel Ginsburg and Governor John Hickenlooper that included delegations of Colorado business, education, and state leaders.

While its inspiration may come from the Swiss system, given Colorado's longstanding record of innovation in skills and workforce development, it is of little surprise the most ambitious plan in recent years to build a youth apprenticeship system from scratch would emerge here. While CareerWise is a private organization, it is the

direct outgrowth of the Governor's Business and Experiential Learning Commission founded in 2015. CareerWise additionally benefits from a legacy of state legislation and infrastructure related to career pathways, industry sector strategies, and efforts to drive state agency coordination on education and workforce.

CareerWise describes itself as a relationship manager. It boasts a full-time staff to support employers and schools throughout a program's start-up and implementation process. But CareerWise as an intermediary also plays a more strategic role. It took important early steps to work with state industry associations and set up branded career pathways in four well-paying, high-growth fields. As a result, CareerWise programs are not developed from scratch by individual schools or employer partners.

CareerWise is currently in its pilot phase, launching pathways in four school districts, with 116 apprentices and over 40 employer partners, but it has a strategy for growth and sustainability. CareerWise is in the process of launching its next cohort of youth apprentices and is taking steps to assess the readiness of the next generation of communities that will implement programs. With regard to sustainability, CareerWise operates with a blend of philanthropic and state dollars, but hopes to be self-sustaining through contributions from employer partners within a matter of years.

Future growth and sustainability will depend on CareerWise's ability to continue to generate and satisfy demand for more youth apprenticeship among employers and students. That includes effectively balancing flexibility for employer partners with maintaining a consistent, quality product for students. CareerWise's future growth will also depend in part on its level of integration with state policy and local systems.

FUTURE DIRECTIONS

Interest in growing high-quality youth apprenticeship reflects interest in expanding apprenticeship more broadly. Continued action at the federal and state level aimed at increasing and diversifying apprenticeship across industries through investment in intermediaries, modernizing the Registered Apprenticeship system, marketing, and research will only further benefit efforts to advance youth apprenticeship. Steps that incent employers to choose apprenticeship and make it easier for them to start and run programs once they do are key. Also important are steps to integrate apprenticeship within mainstream higher education through federal and state policy as well as institutional practices.

Increasing youth apprenticeship and expanding apprenticeship with quality more broadly are not mutually exclusive enterprises. But the idea of systemically connecting employers to high school students through youth apprenticeship raises a host of additional considerations. These include steps to make youth apprenticeship more attractive and less risky for students, employers, and higher education institutions to engage with, design, and implement.

There is a temptation to view apprenticeship as exclusively industry-led, but these steps are a matter of policy. The proof is in countries where youth apprenticeship has achieved scale. That has only happened through *systems*-level partnerships among

public and private actors guided by a clear policy framework. The German and Swiss systems are not based on the culture of their employers alone. The modern systems that exist today were crafted over decades and continue to be improved through deliberate policy-grounded decisions integrated with a broader strategy for economic development.

Toward a Policy Framework

In the U.S., economic development strategy is in large part the domain of state and local policymakers. In comparison to federal policymakers, these leaders own the close relationships with the industry leaders and employers in their states. State and local leaders also have their hands on key education and workforce policy levers. That means they are well positioned to grow youth apprenticeship by taking steps that help local youth apprenticeship partnerships come together in a more consistent and efficient way. Key steps include:

- **A clear framework to guide program design and quality:** Policymakers should outline youth apprenticeship program requirements, including the roles and responsibilities of industry and education. Everything from what the apprentice receives through the program to who should finance what, should not be

individually negotiated from program to program. Programs can achieve this clarity by leveraging the Registered Apprenticeship system or codifying program requirements.

- **Industry-wide approaches to program development:** Policymakers should leverage labor market data to identify priority industry sectors and occupations for youth apprenticeship efforts. They can then support processes that bring employers together to define shared skill needs at an industry level. Industry associations, chambers of commerce, or regional sector partnerships can all be key in this process. Industry-wide pathways reduce program start-up time for individual employers, while ensuring the skills apprentices learn are portable from one employer to another.
- **Sustainable financing for postsecondary instruction:** Policymakers should find a way to support the cost of the related, postsecondary instruction within youth apprenticeship. Education costs can be significant for employers to fund the classroom component of apprenticeship alone. Funding it through state higher education funds is not only an incentive for employers, it also gives policymakers leverage to ensure youth apprentices earn college credit and creates opportunities for more robust data collection on apprentice outcomes.
- **Sustainable financing model for intermediaries:** Wherever youth apprenticeship works in the U.S., there is an intermediary holding the partnership together. Policymakers should explore options to provide sustained support for intermediaries to make it easier for new employers and schools to start up and manage apprenticeship programs. State examples in the previous section outline three possible strategies for doing so.

Critical Needs in an Emerging Field

While state and local policymakers are well positioned to act, limited domestic experience with youth apprenticeship will be a constraint to expansion. Policymakers, philanthropy, and coalitions of state, education, and industry leaders can all help address this dilemma by contributing to broader field building efforts along three key fronts:

- **Supporting a vision for quality and learning:** Designed well, youth apprenticeship is learner centered, but employer driven. Policymakers would benefit from more clarity and opportunities for learning about what ensures programs live up to this standard. Building consensus around a more consistent view of high-quality program components can accelerate program start-up, while making more robust research possible to inform future public and private investment.
- **Improving understanding of the enabling environment:** Youth apprenticeship builds upon broader policy and capacity within K–12 and postsecondary education systems. That includes policies around academic and career planning, financing career and technical education dual enrollment opportunities, and incentives for work-based learning and industry credential attainment. Better understanding the enabling factors can help states and regions advance youth apprenticeship by assessing their readiness for such an effort.
- **Building capacity and supporting innovation:** Federal and state funds, as well as national and local philanthropic funding, have proven essential for supporting new and existing youth apprenticeship partnerships. Continued access to flexible resources that help state and local youth apprenticeship partnerships form and build out sustainable strategies will be critical for continued growth.

Five New Questions

More learning is needed about how youth apprenticeship can and does work. This report answered five initial questions about youth apprenticeship in America today; there are easily five more that need to be addressed, which include:

- **How will industry organize and lead?** To make youth apprenticeship scalable, employers have to find ways to work together, agree on shared skills needs, and pool resources to support programs. What organizations (such as associations or chambers) exist or need to be built to make this possible?
- **How will equity implications be addressed?** For youth apprenticeship to work, equity must be a front-end priority and design principle. How do efforts confront the legacy of tracking in vocational education? How do programs ensure equitable access to competitive and selective youth apprenticeship programs?
- **What about out-of-school youth?** Growing youth apprenticeship demands systemic collaboration with high schools and school districts, but programs effectively function as postsecondary experiences. How could employers and program designers open these opportunities to out-of-school youth and recent graduates as well?
- **How to balance quality with innovations?** There is a need for consistency within youth apprenticeship, but much room for innovation. How do policymakers and program designers best move towards more consistent programs that students and employers trust, while ensuring programs are outcomes driven to allow for flexibility and new approaches to design?
- **What is the role of federal policy?** While state and local policymakers have their hands on the key levers to support the development of youth apprenticeship systems, are there specific policy changes or steps at the federal level that can help support the growth of high-quality youth apprenticeship?

These are all big questions for an existing field that is still small. But it is important for movements to capitalize on moments, and today youth apprenticeship presents a timely solution to the pressing challenges facing both American industry and education. It offers a concrete way these two institutions so fundamental to economic opportunity can cooperate and help build an economy in the 21st century that works for all Americans. Successful youth apprenticeship partnerships between industry and education, even expanded incrementally, can offer the whole country much needed hope for promising new directions.

Appendix A: Characterizing American Youth Apprenticeship

	State Youth Apprenticeship Programs	Registered Youth Apprenticeship Programs	State Youth Apprenticeship Partnership	CTE Pre-Apprenticeship Pathways	State Youth Apprenticeship Pilot Programs
State Examples	Georgia, Wisconsin	North Carolina, South Carolina	Colorado	Kentucky, Ohio, Washington	Illinois, Maryland
Primary State Investment	Intermediary funds, related instruction	Related instruction [NC], tax credit and intermediary funds [SC]	Intermediary funds	Related instruction, intermediary capacity	Intermediary funds
Quality Assurance	State program requirements	Registered system	Program requirements, may be Registered	Connection to Registered Apprenticeship, Program requirements	State program requirements, may be Registered
Industry Concentration	Various, including manufacturing, healthcare, agriculture, biotechnology	Manufacturing [NC, SC], and hospitality and healthcare [SC]	Manufacturing, IT, business and financial services	Skilled trades, manufacturing	Manufacturing, healthcare, skilled trades
Program Length	1–2 years	2–4 years	3 years	1–2 years	Varies
Statewide Participation	Thousands	Hundreds	Hundreds	Hundreds	Hundreds
Minimum Credential	State certification	Journeyworker certificate, associate's degree [NC]	At least one industry credential, one semester general college credit	State certification	Varies
Postsecondary Related Instruction Partners	Community or technical college	Community or technical college	Approved training provider	CTE Skills Center, community or technical college	Varies

Appendix B: State Programs At-a-Glance

	Wisconsin Youth Apprenticeship Program	Registered Youth Apprenticeship in North Carolina ³¹	CareerWise Colorado
Participants	High school juniors and seniors	High school juniors and seniors	High school juniors and seniors
Program Length and Requirements	One- or two-year program options that include 450 or 900 minimum hours on-the-job-training, and 2 or 4 semesters of related classroom instruction delivered within the high school or a local technical college.	Programs generally run three to four years with minimum 6,400 hours on-the-job training and 1,600 classroom hours at local community college. May require completion of a pre-apprenticeship or internship during summer prior to entry.	Three-year program that includes graduated split between time in class and on the job: three class days and two job days in year one, two class days and three job days in year two, and one class day and four job days in year three. One to four days a month are spent at postsecondary training provider.
Credentials and Credit	State Youth Apprenticeship Certificate. May also offer advanced standing into Registered apprenticeship program, college credit, or industry credentials depending on local design.	Associate's degree from local community college; as Registered apprentices, completers receive journeyworker credential, issued by state, recognized by USDOL.	At least one nationally-recognized industry credential and minimum one year (30 credits) of debt-free college credit, of which, a semester (13 credits) is guaranteed transfer general education college credit within the state. More credentials and credit depends on pathway design, student interest, and the employer option to register program with USDOL.
Industry Career Paths	Programs exist across several industries aligned with state CTE pathways including manufacturing, biotechnology, agriculture, and architecture.	Programs primarily exist within advanced manufacturing sector.	Apprenticeships offered within advanced manufacturing, business operations, financial services, healthcare, and technology.
Required Employer Investment	Pay wages and may contribute to required matching funds to secure state regional grant.	Pay wages and related education fees at community college. Employers pool funds to support regional intermediary that coordinates programs.	Pay wages and up to \$5,000 to support related classroom education at approved training center as well as program administration costs.
Public Investment	State grants (with local match) support cost of regional intermediaries and related classroom instruction for youth apprentices. Local education funds may also help offset related classroom education costs.	State and local education dollars help offset some cost of related postsecondary education. Statewide youth apprenticeship tuition benefit further offsets employer costs and cover gaps. State offers employers support as well.	State contributed to start-up of CareerWise. State and local education funds also offset some of the costs of postsecondary education through dual enrollment financing arrangements.

Notes

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⁹ Today’s Registered Apprenticeship system sets the minimum age of the apprentice at 16, but makes no distinction between apprentices that are also enrolled in secondary or postsecondary institutions. New America has proposed a definition for a “student apprentice” that would help distinguish this status amongst the nation’s apprentices. See Mary Alice McCarthy, Iris Palmer, Michael Prebil, *Connecting Apprenticeship and Higher Education* (Washington, DC: New America, December 2017), <https://na-production.s3.amazonaws.com/documents/Connecting-Apprenticeship-HigherEd.pdf>.

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